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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,596	03/29/2004	Dan Gaur	P18327	3217

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EXAMINER
FOUD, HICHAM B

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2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 March 2004</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 March 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>07/27/2004</u>.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20070711

DETAILED ACTION

Specification

1.   The abstract is objected because it is too short.

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Claim Objections

2.   Claims 1-7, 15, 17 and 18 are objected to because of the following informalities:

For claim 1 line 7, the term "on" has to follow the word "based" to make sense to

the claim as recited in claim 8.

For claims 6 and 15, the signs (+ and -) at the end of each limitation need to be written as "plus" and "minus" and followed by a comma (,).

For claims 17 and 18, the abbreviations "PCI" and "PCI-X" have to be written in full.

Claims 2-5 and 7 are objected because of their dependency on the objected claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-3, 7-12, 16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Lay (US 2005/0033531).

For claim 1, Lay discloses a method comprising: determining network parameters (see paragraph 0026; wherein "the resource management measures resource usage of receiving buffers"); determining host interface parameters (see paragraph 0026; wherein "the resource management measures resource usage of destination buffers"); setting a storage threshold capacity of a storage device based on at least one network parameter and at least one host interface parameter (see Figure 2; wherein resource

measurement engine control the threshold capacity in the flow control logic); and

transmitting a request to stop transmission of traffic to the storage device based the

storage device exceeding the storage threshold capacity (see Figure 2; wherein pause

on engine transmits a pause frame when exceeding the threshold).

For claims 2 and 11, Lay discloses a method and an apparatus further

comprising adjusting the storage threshold capacity based on changes to a network

parameter (See Figure 5; wherein the change in measuring resource which can depend

on the network parameter (receiving buffers) cause the transmission of a pause frame

in case of exceeding the threshold or going back to measuring the resource usage in

case of not exceeding the threshold).

For claims 3 and 12, Lay discloses a method and an apparatus further

comprising adjusting the storage threshold capacity based on changes to a host

interface parameter (See Figure 5; wherein the change in measuring resource which

can depend on the host interface parameter (destination buffers) cause the

transmission of a pause frame in case of exceeding the threshold or going back to

measuring the resource usage in case of not exceeding the threshold).

For claim 7, Lay discloses a method further comprising transmitting a request to

allow transmission of traffic (see Figure 5; wherein the transmission of Pause off packet

is a request to allow transmission of traffic).

For claims 8 and 16, Lay discloses an apparatus and a system comprising: a

host system comprising a processor and a memory (see Figure 1, switch 150;

inherently, switch 150 has a processor and a memory to function); an interface (see

Figure 1, the connection between switch 110 and switch 150); a storage device to store

received traffic (see Figure 1; wherein a storage device is inherent in the switch 110

since the adaptive flow control system measures the resources as shown in Figure 2

and the storage device is mentioned in paragraph 0026; wherein "the resource

management measures resource usage of receiving buffers"); and a controller to

manage the transmission of traffic to the storage device (see Figure 1, adaptive flow

control system), wherein the controller is configured to: determine at least one network

parameter see paragraph 0026; wherein "the resource management measures resource

usage of receiving buffers"); determine at least one host interface parameter (see

paragraph 0026; wherein "the resource management measures resource usage of

destination buffers"); set a storage threshold capacity of the storage device based on at

least one network parameter and at least one host interface parameter (See Figure 5;

wherein the change in measuring resource which can depend on the host interface

parameter and network parameter (receiving buffers and destination buffers) cause the

transmission of a pause frame in case of exceeding the threshold or going back to

measuring the resource usage in case of not exceeding the threshold); monitor storage

conditions of a storage device (see Figure 5; the loopback to measuring the resource

usage in case of not exceeding the threshold) ; and transmit a request to stop

transmission of traffic based on the storage device exceeding the storage threshold

capacity (see Figure 5; wherein pause on frame has been transmitted when exceeding

the threshold).

For claim 9, Lay discloses an apparatus further comprising a physical layer interface to transfer received traffic to the storage device (see Figure 1, the physical layer that connects elements 120, 130 and 140 to the switch 110).

For claim 10, Lay discloses an apparatus wherein the controller is further configured to perform media access control processing in compliance with IEEE 802.3x (see Figure 1, wherein the system is Full Duplex and flow control which are the description of the Ethernet standard of 802.3x dated 1997).

For claim 19, Lay discloses a system further comprising a storage device coupled to the interface (see Figure 1, the connection between switch 110 and switch 150; wherein the a storage device is inherent in the switch 110).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lay in view of Hao (US 2003/0172220).

For Claims 4 and 13, Lay discloses all the subject matter with the exception of wherein the network parameter includes at least one of the following: link speed of a network that transmits traffic to the storage device; signal propagation speed of a physical medium that transfers traffic from the network to the storage device; length of

the physical medium that transfers traffic; and maximum frame size of packets in the

traffic. However, Lay suggested that the network parameter could be besides the

receiving buffers, and total resource usage, any other factors of the switch (see

paragraph 0026). Also, Hao from the same or similar field of endeavor teaches the use

of a flow controller (see Figure 1, Snooping Module element 140) that uses the

maximum frame size of packets in the traffic as a network parameter to control the

storage threshold capacity (see paragraph 0023). Thus, it would have been obvious to

the one skill in the art at the time of the invention to use the functions of the Snooping

Module as taught by Hao into the system of lay for the purpose of increasing the system

efficiency and easing the flow traffic to avoid any loss of data or overflow.

5.   Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lay.

        For Claims 5 and 14, Lay discloses all the subject matter with the exception of

wherein the host interface parameter comprises any of a local bus speed and number of

bits that can be transmitted through the bus in a single cycle. However, Lay suggested

that the host parameter could be besides the destination buffers and total resource

usage, any other factors of the switch (see paragraph 0026). And the transfer of data

from a switch to another is depending on the data rate that implicitly depends on the

speed of the bus connecting the two switches because the bus is a subsystem that

transfers data or power between components. Thus, it would have been obvious to the

one skill in the art at the time of the invention to use the bus speed as a factor among

other factors in the switch as suggested by Lay for the purpose of easing the flow traffic

to avoid any loss of data or overflow.

6.   Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lay in view of Erimli et al (US 6,487,212).

For Claims 17 and 18, Lay discloses all the subject matter with the exception of

wherein the interface is compatible with PCI and PCI-X. However, Erimli et al discloses

a switch that includes a PCI interface that may serves as an expansion bus for switch

devices (see column 5 lines 43-48). Thus, it would have been obvious to the one skill in

the art at the time of the invention to have the interface (switch) compatible with either

PCI or PCI-X since PCI-X is the later revisions of PCI added new features and

performance improvements, as taught by the invention of Erimli et al into the invention

of Lay for the purpose of increasing the compatibility and flexibility.

7.   Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lay in view of Zimmermann et al (US 2003/0161302).

For Claims 6 and 15, Lay discloses all the subject matter with the exception of

wherein the storage threshold capacity comprises a difference between total storage

capacity of the storage device to store traffic from a link partner and a safety margin and

wherein the safety margin comprises: (i) amount of bits that might be transmitted from

the link partner while the request to stop transmission of traffic is prepared +(ii) amount

of bits that might be transmitted from the link partner while the request to stop

transmission of traffic is in transit to the link partner +(iii) amount of bits that might arrive

to the storage device from the link partner while the link partner processes the request

to stop transmission of traffic +(iv) amount of bits that the link partner might have

transmitted while the link partner processes the request to stop transmission of traffic -

(v) amount of bits drained from the storage device during (i) through (iv). However,

Zimmermann et al discloses a method wherein if the data in the buffer reaches

threshold, the coming data flow is paused and therefore a safety margin is set (see

paragraph 0051). Thus it would have been obvious to the one skill in the art to adapt

the method of Zimmermann et al into the system of Lay for the purpose of avoiding loss

of data.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. See PTO-892.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hicham B. Foud whose telephone number is 571-270-

1463. The examiner can normally be reached on Monday - Thursday 10-3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau T. Nguyen can be reached on 571-272-3126. The fax phone number

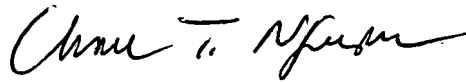for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hicham Foud

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